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This Data Summary is one of a series of leading cause of death reports.

Highlights

- **Cerebrovascular disease is the third leading cause of death in California and in the United States.**
- **People aged 65 and older had 87.8 percent of all cerebrovascular disease deaths in California.**
- **California's age-adjusted death rate for cerebrovascular disease is 61.2 per 100,000 population.**
- **California has not yet met the Healthy People 2010 National Objective of an age-adjusted death rate of no more than 48 deaths per 100,000 population.**

Cerebrovascular Disease Deaths California 2000

By Cheryl Wilson

Introduction

Cerebrovascular disease is the third leading cause of death in California and in the United States, following heart disease and cancer.[1,2] In addition to being a leading cause of death, stroke is also a major cause of disability. Each year in the United States, approximately 600,000 people will suffer a new or recurrent stroke.[3] In 2000, cerebrovascular disease accounted for 167,661 deaths among all Americans, which represented an increase of 295 deaths from the previous year's figure of 167,366.[2,4] Among California residents, cerebrovascular disease deaths increased slightly from 18,079 deaths in 1999 to 18,090 deaths in 2000.[1,5]

Due to the prevalence of cerebrovascular disease in this country, the United States Public Health Service established a national health objective for Healthy People 2010, seeking to reduce the number of cerebrovascular disease deaths to an age-adjusted rate of no more than 48 per 100,000 population.[6]

This report presents data on California's cerebrovascular disease deaths for 2000, and provides analysis of crude and age-adjusted death rates for California residents by sex, age, and race/ethnicity. The cerebrovascular disease data included in this report are extracted from vital statistics records with death attributed to cerebrovascular disease as defined by the Tenth Revision of the International Classification of Diseases (ICD-10) codes I60-I69 in accordance with the National Center for Health Statistics Reports.[7]

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[1] Ficenec S. *Advance Report: California Vital Statistics*, Preliminary Data for *2000*. Center for Health Statistics, California Department of Health Services. May 2002.

[2] National Center for Health Statistics, Deaths: Final Data for 2000, *National Vital Statistics Reports,* DHHS Pub. No. (PHS) 2002-1120, PRS 02-0583 (9/2002).

[3] Centers for Disease Control, Cardiovascular Health: *Stroke Fact Sheet.* August 2002.

[4] National Center for Health Statistics, Deaths: Final Data for 1999, *National Vital Statistics Reports,* DHHS Pub. No. (PHS) 2001-1120, PRS 01-0573 (9/2001).

[5] State of California, Department of Health Services, Death Records. 1999.

[6] U.S. Department of Health and Human Services. *Healthy People 2010 Objectives* (Second Edition, in Two Volumes). Washington, D.C., January 2001.

[7] National Center for Health Statistics. *Vital Statistics, Instructions for Classifying the Underlying Cause of Death*. NCHS Instruction Manual, Part 9. Hyattsville, Maryland: Public Health Service. 1999.

A description of methods and a brief overview of data limitations and qualifications are provided at the end of this report.

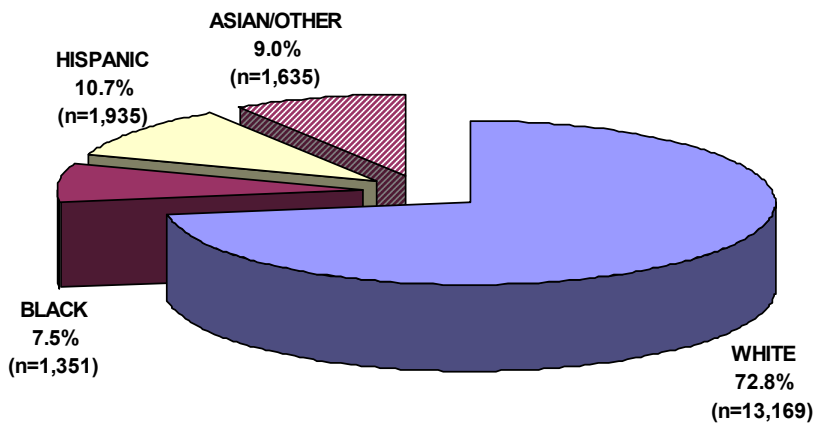
Cerebrovascular Disease Deaths

Table 1 (page 9) shows California's cerebrovascular disease death data by race/ethnicity, age, and sex. In 2000, California's female residents had 59.8 percent of the total cerebrovascular disease deaths, while males had 40.2 percent. During this year, the cerebrovascular disease death ratio was 1.5 female deaths for every male death.

For California residents overall and each of the major race/ethnic groups, cerebrovascular disease deaths were highest among people in the age group 65 and older. In California, 87.8 percent of all cerebrovascular disease deaths occurred in this age group. Among the individual race/ethnic groups, decedents aged 65 and older accounted for 92.2 percent of the deaths among Whites, 80.9 percent among Asian/Other, 73.9 percent among Hispanics, and 72.8 percent among Blacks.

As shown in **Figure 1**, Whites had the highest percentage of cerebrovascular disease deaths (72.8 percent) among all California residents, followed by Hispanics (10.7), Asian/Other (9.0), and Blacks (7.5).

FIGURE 1
CEREBROVASCULAR DISEASE DEATHS BY RACE/ETHNICITY
CALIFORNIA, 2000*
(n=18,090)



Source: State of California, Department of Health Services, Death Records.
*Calculated using death data for California residents only.

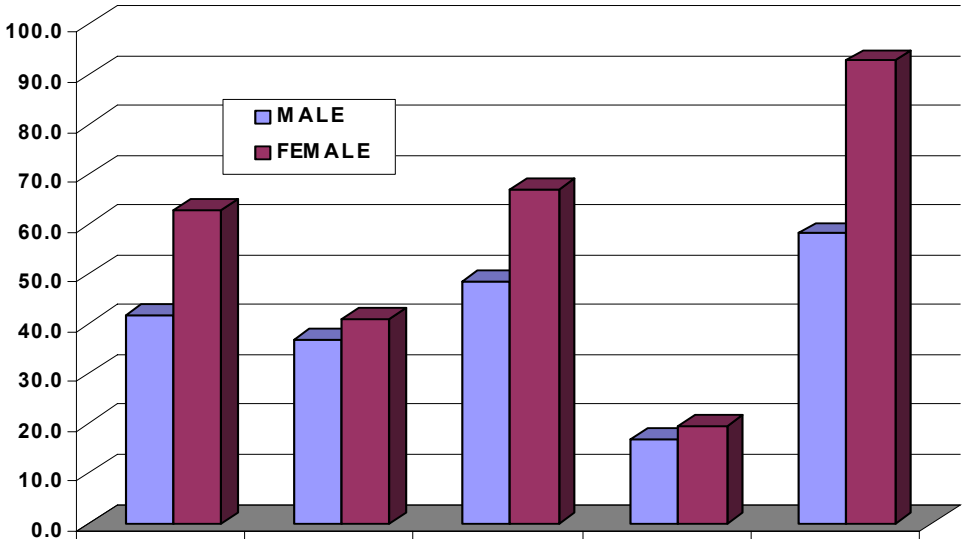
Table 1 (page 9) shows that among each of the major race/ethnic groups, cerebrovascular disease deaths were higher for females than for males. White females had the highest number of cerebrovascular disease deaths (8,154), followed by Hispanic females (1,008), Asian/Other females (875), and Black females (788). Similar patterns also occurred among males in that Whites had the highest number of deaths due to cerebrovascular disease (5,015), followed by Hispanics (927), Asian/Other (760), and Blacks (563).

Cerebrovascular Disease Crude Death Rates

Table 1 (page 9) shows California's cerebrovascular disease crude death rate was 52.2 per 100,000 population. Among the major race/ethnic groups, Whites had the highest cude death rate (75.6), followed by Blacks (57.8), Asian/Other (38.9), and Hispanics (18.1). In 2000, the crude death rate for Whites was 4.2 times higher than the rate for Hispanics, 1.9 times higher than Asian/Other, and 1.3 times higher than Blacks.

See the Methodological Approach section later in this report for an explanation of crude and age-specific death rates.

FIGURE 2
CEREBROVASCULAR DISEASE CRUDE DEATH RATES BY SEX AND RACE/ETHNICITY
CALIFORNIA, 2000*



	TOTAL	ASIAN/OTHER	BLACK	HISPANIC	WHITE
MALE	41.8	36.7	48.6	16.7	58.1
FEMALE	62.7	41.0	66.8	19.6	92.8

Source: State of California, Department of Health Services, Death Records.
***Calculated using death data for California residents only.**

As shown in **Figure 2**, California's female residents had a higher overall crude death rate, 62.7 per 100,000 population, compared with the male rate of 41.8. Similar patterns also occurred among males and females within each race/ethnic group. White females had a rate of 92.8 per 100,000 population, while White males had a rate of 58.1. Black females had a rate of 66.8 compared with Black males with a rate of 48.6. Asian/Other females had a rate of 41.0 and Asian/Other males had a rate of 36.7. Hispanic females had a rate of 19.6 while Hispanic males had a rate of 16.7.

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The differences in crude death rates among males and females within each race/ethnic group were statistically significant.

Cerebrovascular Disease Age-Specific Death Rates

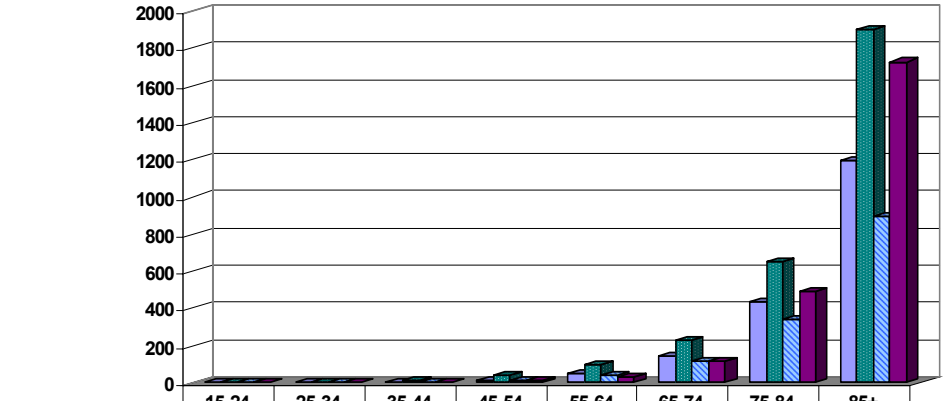
Table 1 (page 9) shows that among California residents, and for each of the major race/ethnic groups, the reliable age-specific death rates increased with the age of the decedent.

In California, male reliable age-specific death rates were higher than female rates in all age groups, with the exception of the 85 and older age group. This pattern was also consistent among Asian/Other, Blacks, and Hispanics, but not for Whites. White males had higher age-specific death rates than White females, except in the 35 to 44 and 85 and older age groups.

See the Vital Statistics Query System (VSQ) at our Web site www.dhs.ca.gov/hisp/Applications/vsq/vsq.cfm to create your own vital statistics tables.

Figure 3 shows that among the major race/ethnic groups, Blacks had the highest age-specific death rates in the 35 to 44 and all the older age groups. The lowest reliable rates were among Whites in the 35 through 64 age groups, and Hispanics in the 65 through 85 and older age groups.

FIGURE 3
CEREBROVASCULAR DISEASE DEATH RATES
BY RACE/ETHNICITY AND AGE
CALIFORNIA, 2000*



	15-24	25-34	35-44	45-54	55-64	65-74	75-84	85+
ASIAN/OTHER	0.3	0.8	5.7	17.3	51.9	147.4	439.8	1,197.8
BLACK	1.1	3.1	15.4	41.3	100.2	231.0	649.2	1,899.5
HISPANIC	0.5	2.1	5.1	15.2	43.4	116.4	340.1	900.1
WHITE	0.4	0.9	2.9	11.2	34.1	119.7	495.1	1,727.8

Source: State of California, Department of Health Services, Death Records.
***Calculated using death data for California residents only.**
Note: Some of the rates displayed in this table are unreliable (see Table 1, page 9).

Cerebrovascular Disease Age-Adjusted Death Rates

In 2000, California's age-adjusted death rate was 61.2 per 100,000 population. California has not yet met the Healthy People 2010 National Health Objective to reduce the age-adjusted cerebrovascular disease deaths to no more than 48.0 deaths per 100,000 population.[6,8]

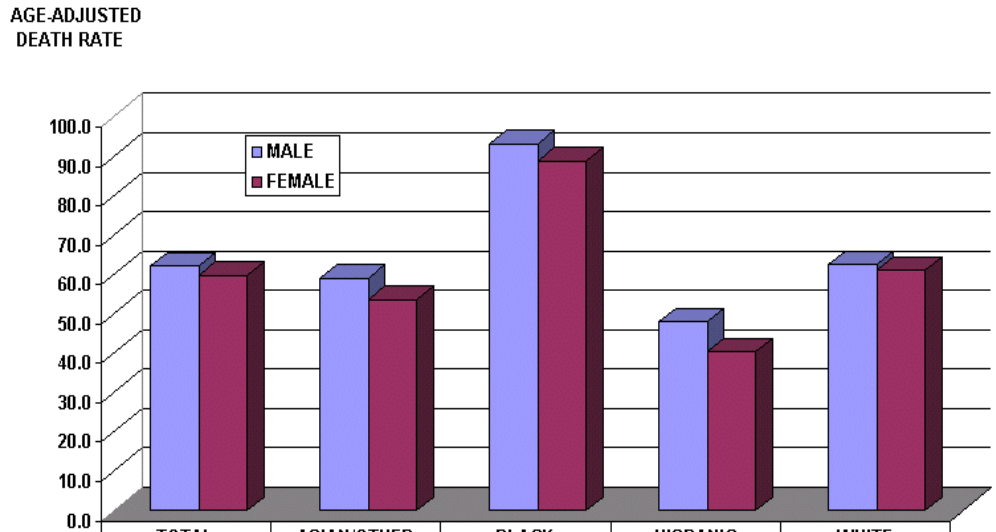
Among the major race/ethnic groups, Blacks had an age-adjusted death rate of 91.4, which was significantly higher than the rate for Whites (62.1), Asian/Other (56.1), and Hispanics (44.0).

Figure 4 (page 5) shows males had higher age-adjusted death rates than females in California overall and among each of the major race/ethnic groups. The age-adjusted death rate of 62.2 per 100,000 population among California males was significantly higher than the female rate of 59.8. Among the four race/ethnic groups, Hispanic males had a significantly higher age-adjusted death rate (48.0) than Hispanic females (40.3). For Asian/Other, Blacks, and Whites the rate differences between males and females within their respective race/ethnic group were not statistically significant.

[8] Klein RJ, Schoenborn, CA. *Healthy People 2010 Statistical Notes: Age Adjustment using the 2000 Projected U.S. Population.* National Center for Health Statistics, DHHS Publication, No 20. January 2001.

You can read more about crude and age-adjusted death rates on the National Center for Health Statistics Web site at www.cdc.gov/nchs

FIGURE 4
CEREBROVASCULAR DISEASE AGE-ADJUSTED DEATH RATES
BY SEX AND RACE/ETHNICITY
CALIFORNIA, 2000*



	TOTAL	ASIAN/OTHER	BLACK	HISPANIC	WHITE
MALE	62.2	59.1	93.2	48.0	62.6
FEMALE	59.8	53.7	88.8	40.3	61.1

Source: State of California, Department of Health Services, Death Records.
*Calculated using death data for California residents only.

Cerebrovascular Disease Death Rates for California Counties

Table 2 (page 10) shows the 1999-2000 average number of cerebrovascular disease deaths with crude and age-adjusted death rates for California and its 58 counties.

Among the counties with reliable rates, Lake County had the highest crude death rate (116.6) per 100,000 population and Imperial County had the lowest rate (36.6). Among the age-adjusted death rates, Yuba County had the highest rate (98.1), and Madera County had the lowest rate (45.9).

The Healthy People 2010 National Objective to reduce cerebrovascular disease deaths to an age-adjusted rate of no more than 48.0 deaths per 100,000 population was met by 11 counties (3 with reliable rates), but not California as a whole, which had an age-adjusted death rate of 63.3.

Cerebrovascular Disease Deaths among the Three City Health Jurisdictions

Table 3 (page 6) shows the 1999-2000 average number of cerebrovascular disease deaths and crude death rates for California's three city health jurisdictions.

Age-adjusted death rates were not calculated for city health jurisdictions because city population data by age are not available.

For more data, see DHS Center for Health Statistics, Home Page at www.dhs.ca.gov/org/hisp/chs/chsindex.htm

Long Beach had the highest average number of deaths (238.0), followed by Pasadena (87.5), and Berkeley (71.0). The crude death rates were 69.5 per 100,000 population for Berkeley, 66.2 for Pasadena, and 52.7 for Long Beach.

TABLE 3
CEREBROVASCULAR DISEASE DEATHS
AMONG THE CITY HEALTH JURISDICTIONS
CALIFORNIA, 1999-2000*

CITY HEALTH JURISDICTION	AVERAGE NUMBER OF DEATHS	1999 POPULATION	CRUDE DEATH RATE
BERKELEY	71.0	102,200	69.5
LONG BEACH	238.0	451,500	52.7
PASADENA	87.5	132,200	66.2

Note: Rates are per 100,000 population; ICD-10 codes I60-I69.

Source: State of California, Department of Finance, E-4 Historical City/County Population Estimates 1991-2000, with 1990 and 2000 Census Counts, March 2002.

*Calculated using death data for California residents only.

State of California, Department of Health Services, Death Records.

Methodological Approach

The methods used to analyze vital statistics data are important. Analyzing only the number of deaths has its disadvantages and can be misleading because the population at risk is not taken into consideration. Crude death rates show the actual rate of dying in a given population, but because of the differing age compositions of various populations, crude rates do not provide a statistically valid method for comparing geographic areas and/or multiple reporting periods. Age-specific death rates are the number of deaths per 100,000 population in a specific age group and are used along with standard population proportions to develop a weighted average rate. This rate is referred to as an age-adjusted death rate and removes the effect of different age structures of the populations whose rates are being compared. Age-adjusted death rates therefore provide the preferred method for comparing different race/ethnic groups, sexes, and geographic areas and for measuring death rates over time. The 2000 population standard is used as the basis for age-adjustments in this report.

Data Limitations and Qualifications

The cerebrovascular disease death data presented in this report are based on the vital statistics records with ICD-10 codes I60-I69 as defined by the National Center for Health Statistics.[2] Place of residence means that the data include only those deaths occurring to residents of California and its counties, regardless of the place of death.

The term “significant” within the text indicates statistically significant based on the difference between two independent rates ($p < .05$).

As with any vital statistics data, caution needs to be exercised when analyzing small numbers, including the rates derived from them. Death rates calculated from a small number of deaths and/or population tend to be unreliable and subject to significant variation from one year to the next. To assist the reader, 95 percent confidence intervals are provided in the data tables as a tool for measuring the reliability of death rates. Rates with a relative standard error (coefficient of variation) greater than or equal to 23 percent are indicated with an asterisk (*).

Beginning in 1999, cause of death is reported using ICD-10.[9] Cause of death for 1979 through 1998 was coded using the International Classification of Diseases, Ninth Revision (ICD-9). Depending on the specific cause of death, the number of deaths and death rate are not comparable between ICD-9 and ICD-10. Therefore, our analyses do not combine both ICD-9 and ICD-10 data.

The variability of the rates has increased in **Tables 2 and 3** because of the unavailability of earlier years of data. Three-year average numbers using ICD-10 coding for cause of death will reduce this problem when the data are available in 2002.

The four race/ethnic groups presented in the table are mutually exclusive. White, Black, and Asian/Other exclude Hispanic ethnicity, while Hispanic includes any race/ethnic group. In order to remain consistent with the population data obtained from the Department of Finance, the "White race/ethnic group" includes: White, Other (specified), Not Stated, and Unknown; and "Asian/Other race/ethnic group" includes: Aleut, American Indian, Asian Indian, Asian (specified/unspecified), Cambodian, Chinese, Eskimo, Filipino, Guamanian, Hawaiian, Japanese, Korean, Laotian, Other Pacific Islander, Samoan, Thai, and Vietnamese. In addition, caution should be exercised in the interpretation of mortality data by race/ethnicity. Misclassification of race/ethnicity on the death certificate may contribute to death rates that may be underestimated among Hispanics and Asian/Other death rates.[10]

Beginning in 2000, federal race/ethnicity reporting guidelines changed to allow the reporting of up to three races on death certificates. The race/ethnic groups in this report were tabulated based on the first listed race on those certificates where more than one race was listed. Race groups for 2000 are therefore not strictly compatible with prior years.

Effective with 1999 mortality data, the standard population for calculating age-adjustments was changed from the 1940 population standard to the 2000 population standard, in accordance with new statistical policy implemented by the National Center for Health Statistics. The new population standard affects measurement of mortality trends and group comparisons. Of particular note are the effects on race comparison of mortality.[11] Age-adjusted rates presented in this report are not comparable to rates calculated with different population standards.

In addition, the population data used to calculate the crude rates in **Table 3** (page 6) differ from the population data used to calculate the crude rates in **Table 2** (page 10). Consequently, caution should be exercised when comparing the crude rates among the three health jurisdictions with the rates among the 58 California counties. Age-adjusted rates for city health jurisdictions were not calculated due to the unavailability of city population data by age.

For a more complete explanation of the age-adjustment methodology used in this report, see the "Healthy People 2010 Statistical Notes" publication.[8] Detailed information

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[9] World Health Organization. *International Statistical Classification of Diseases and Related Health Problems. Tenth Revision*. Geneva: World Health Organization. 1992.

[10] Rosenberg HM, et al. Quality of Death Rates by Race and Hispanic Origin: A Summary of Current Research, 1999. *Vital and Health Statistics,* Series 2, No. 128, National Center for Health Statistics, DHHS Pub. No. (PHS) 99-1328, September 1999.

[11] Anderson RN, Rosenberg HM. Age Standardization of Death Rates: Implementation of the Year 2000 Standard. National vital statistics reports; vol 47, no. 3. Hyattsville, Maryland: National Center for Health Statistics, 1998.

on data quality and limitations is presented in the appendix of the annual report, "Vital Statistics of California." [12] Formulas used to calculate death rates are included in the technical notes of the "County Health Status Profiles" report.[13]

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[12]Riedmiller K, Bindra K. *Vital Statistics of California, 1999*. Center for Health Statistics, California Department of Health Services, April 2002.

[13]Schmidt, C. *County Health Status Profiles 2002*. Center for Health Statistics, California Department of Health Services, April 2002.

TABLE 1
DEATHS DUE TO CEREBROVASCULAR DISEASE BY RACE/ETHNICITY, AGE, AND SEX
CALIFORNIA, 2000
(By Place of Residence)

AGE GROUPS	DEATHS			POPULATION			RATES			95% CONFIDENCE LIMITS					
										TOTAL		MALE		FEMALE	
	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	LOWER	UPPER	LOWER	UPPER	LOWER	UPPER
TOTAL															
UNDER 1	11	5	6	556,635	284,653	271,982	2.0 *	1.8 *	2.2 *	0.8	3.1	0.2	3.3	0.4	4.0
1 - 4	4	1	3	2,225,385	1,138,537	1,086,848	0.2 *	0.1 *	0.3 *	0.0	0.4	0.0	0.3	0.0	0.6
5 - 14	5	2	3	5,567,090	2,851,540	2,715,550	0.1 *	0.1 *	0.1 *	0.0	0.2	0.0	0.2	0.0	0.2
15 - 24	23	9	14	4,615,641	2,395,832	2,219,809	0.5	0.4 *	0.6 *	0.3	0.7	0.1	0.6	0.3	1.0
25 - 34	74	43	31	4,998,216	2,643,192	2,355,024	1.5	1.6	1.3	1.1	1.8	1.1	2.1	0.9	1.8
35 - 44	273	144	129	5,751,694	2,942,371	2,809,323	4.7	4.9	4.6	4.2	5.3	4.1	5.7	3.8	5.4
45 - 54	662	365	297	4,469,059	2,221,466	2,247,593	14.8	16.4	13.2	13.7	15.9	14.7	18.1	11.7	14.7
55 - 64	1,156	636	520	2,756,954	1,343,573	1,413,381	41.9	47.3	36.8	39.5	44.3	43.7	51.0	33.6	40.0
65 - 74	2,510	1,264	1,246	1,957,505	901,472	1,056,033	128.2	140.2	118.0	123.2	133.2	132.5	147.9	111.4	124.5
75 - 84	6,237	2,699	3,538	1,305,454	533,995	771,459	477.8	505.4	458.6	465.9	489.6	486.4	524.5	443.5	473.7
85 & OLDER	7,135	2,097	5,038	449,762	142,364	307,398	1,586.4	1,473.0	1,638.9	1,549.6	1,623.2	1,409.9	1,536.0	1,593.7	1,684.2
UNKNOWN	0	0	0												
TOTAL	18,090	7,265	10,825	34,653,395	17,398,995	17,254,400	52.2	41.8	62.7	51.4	53.0	40.8	42.7	61.6	63.9
AGE-ADJUSTED							61.2	62.2	59.8	60.3	62.1	60.8	63.7	58.7	61.0
ASIAN/OTHER															
UNDER 1	2	0	2	67,434	34,501	32,933	3.0 *	0.0 +	6.1 *	0.0	7.1	-	-	0.0	14.5
1 - 4	2	1	1	266,651	136,640	130,011	0.8 *	0.7 *	0.8 *	0.0	1.8	0.0	2.2	0.0	2.3
5 - 14	0	0	0	660,070	339,469	320,601	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
15 - 24	2	0	2	604,654	309,566	295,088	0.3 *	0.0 +	0.7 *	0.0	0.8	-	-	0.0	1.6
25 - 34	5	2	3	649,462	328,916	320,546	0.8 *	0.6 *	0.9 *	0.1	1.4	0.0	1.5	0.0	2.0
35 - 44	40	18	22	698,724	339,157	359,567	5.7	5.3 *	6.1	4.0	7.5	2.9	7.8	3.6	8.7
45 - 54	97	47	50	561,189	265,710	295,479	17.3	17.7	16.9	13.8	20.7	12.6	22.7	12.2	21.6
55 - 64	165	88	77	317,872	151,006	166,866	51.9	58.3	46.1	44.0	59.8	46.1	70.5	35.8	56.5
65 - 74	320	150	170	217,081	95,695	121,386	147.4	156.7	140.0	131.3	163.6	131.7	181.8	119.0	161.1
75 - 84	545	264	281	123,907	53,227	70,680	439.8	496.0	397.6	402.9	476.8	436.2	555.8	351.1	444.1
85 & OLDER	457	190	267	38,153	16,296	21,857	1,197.8	1,165.9	1,221.6	1,088.0	1,307.6	1,000.1	1,331.7	1,075.0	1,368.1
UNKNOWN	0	0	0												
TOTAL	1,635	760	875	4,205,197	2,070,183	2,135,014	38.9	36.7	41.0	37.0	40.8	34.1	39.3	38.3	43.7
AGE-ADJUSTED							56.1	59.1	53.7	53.3	58.8	54.8	63.4	50.1	57.3
BLACK															
UNDER 1	2	2	0	37,159	19,020	18,139	5.4 *	10.5 *	0.0 +	0.0	12.8	0.0	25.1	-	-
1 - 4	1	0	1	147,839	75,557	72,282	0.7 *	0.0 +	1.4 *	0.0	2.0	-	-	0.0	4.1
5 - 14	2	0	2	414,580	210,046	204,534	0.5 *	0.0 +	1.0 *	0.0	1.2	-	-	0.0	2.3
15 - 24	4	1	3	356,933	188,930	168,003	1.1 *	0.5 *	1.8 *	0.0	2.2	0.0	1.6	0.0	3.8
25 - 34	11	6	5	352,200	185,909	166,291	3.1 *	3.2 *	3.0 *	1.3	5.0	0.6	5.8	0.4	5.6
35 - 44	60	35	25	388,391	189,399	198,992	15.4	18.5	12.6	11.5	19.4	12.4	24.6	7.6	17.5
45 - 54	119	58	61	287,837	135,895	151,942	41.3	42.7	40.1	33.9	48.8	31.7	53.7	30.1	50.2
55 - 64	169	94	75	168,721	78,536	90,185	100.2	119.7	83.2	85.1	115.3	95.5	143.9	64.3	102.0
65 - 74	244	111	133	105,627	46,350	59,277	231.0	239.5	224.4	202.0	260.0	194.9	284.0	186.2	262.5
75 - 84	392	166	226	60,380	23,176	37,204	649.2	716.3	607.5	585.0	713.5	607.3	825.2	528.3	686.7
85 & OLDER	347	90	257	18,268	5,491	12,777	1,899.5	1,639.0	2,011.4	1,699.6	2,099.4	1,300.4	1,977.7	1,765.5	2,257.3
UNKNOWN	0	0	0												
TOTAL	1,351	563	788	2,337,935	1,158,309	1,179,626	57.8	48.6	66.8	54.7	60.9	44.6	52.6	62.1	71.5
AGE-ADJUSTED							91.4	93.2	88.8	86.4	96.4	85.0	101.5	82.6	95.1
HISPANIC															
UNDER 1	4	2	2	267,741	136,840	130,901	1.5 *	1.5 *	1.5 *	0.0	3.0	0.0	3.5	0.0	3.6
1 - 4	1	0	1	1,055,221	539,226	515,995	0.1 *	0.0 +	0.2 *	0.0	0.3	-	-	0.0	0.6
5 - 14	2	2	0	2,296,937	1,173,481	1,123,456	0.1 *	0.2 *	0.0 +	0.0	0.2	0.0	0.4	-	-
15 - 24	8	4	4	1,609,062	832,517	776,545	0.5 *	0.5 *	0.5 *	0.2	0.8	0.0	1.0	0.0	1.0
25 - 34	38	24	14	1,793,492	998,691	794,801	2.1	2.4	1.8 *	1.4	2.8	1.4	3.4	0.8	2.7
35 - 44	84	53	31	1,643,440	880,073	763,367	5.1	6.0	4.1	4.0	6.2	4.4	7.6	2.6	5.5
45 - 54	149	94	55	978,139	498,051	480,088	15.2	18.9	11.5	12.8	17.7	15.1	22.7	8.4	14.5
55 - 64	220	126	94	506,398	246,133	260,265	43.4	51.2	36.1	37.7	49.2	42.3	60.1	28.8	43.4
65 - 74	373	208	165	320,415	146,540	173,875	116.4	141.9	94.9	104.6	128.2	122.7	161.2	80.4	109.4
75 - 84	550	255	295	161,694	67,052	94,642	340.1	380.3	311.7	311.7	368.6	333.6	427.0	276.1	347.3
85 & OLDER	506	159	347	56,213	18,817	37,396	900.1	845.0	927.9	821.7	978.6	713.6	976.3	830.3	1,025.5
UNKNOWN	0	0	0												
TOTAL	1,935	927	1,008	10,688,752	5,537,421	5,151,331	18.1	16.7	19.6	17.3	18.9	15.7	17.8	18.4	20.8
AGE-ADJUSTED							44.0	48.0	40.3	41.9	46.0	44.6	51.3	37.8	42.9
WHITE															
UNDER 1	3	1	2	184,301	94,292	90,009	1.6 *	1.1 *	2.2 *	0.0	3.5	0.0	3.1	0.0	5.3
1 - 4	0	0	0	755,674	387,114	368,560	0.0 +	0.0 +	0.0 +	-	-	-	-	-	-
5 - 14	1	0	1	2,195,503	1,128,544	1,066,959	0.0 *	0.0 +	0.1 *	0.0	0.1	-	-	0.0	0.3
15 - 24	9	4	5	2,044,992	1,064,819	980,173	0.4 *	0.4 *	0.5 *	0.2	0.7	0.0	0.7	0.1	1.0
25 - 34	20	11	9	2,203,062	1,129,676	1,073,386	0.9	1.0 *	0.8 *	0.5	1.3	0.4	1.5	0.3	1.4
35 - 44	89	38	51	3,021,139	1,533,742	1,487,397	2.9	2.5	3.4	2.3	3.6	1.7	3.3	2.5	4.4
45 - 54	297	166	131	2,641,894	1,321,810	1,320,084	11.2	12.6	9.9	10.0	12.5	10.6	14.5	8.2	11.6
55 - 64	602	328	274	1,763,963	867,898	896,065	34.1	37.8	30.6	31.4	36.9	33.7	41.9	27.0	34.2
65 - 74	1,573	795	778	1,314,382	612,887	701,495	119.7	129.7	110.9	113.8	125.6	120.7	138.7	103.1	118.7
75 - 84	4,750	2,014	2,736	959,473	390,540	568,933	495.1	515.7	480.9	481.0	509.1	493.2	538.2	462.9	498.9
85 & OLDER	5,825	1,658	4,167	337,128	101,760	235,368	1,727.8	1,629.3	1,770.4	1,683.5	1,772.2	1,550.9	1,707.8	1,716.7	1,824.2
UNKNOWN	0	0	0												
TOTAL	13,169	5,015	8,154	17,421,511	8,633,082	8,788,429	75.6	58.1	92.8	74.3	76.9	56.5	59.7	90.8	94.8
AGE-ADJUSTED							62.1	62.6	61.1	61.0	63.1	60.8	64.3	59.8	62.5

Note: ICD-10 Codes I60-I69; rates are per 100,000 population.
Year 2000 U.S. standard population is used for age-adjusted rates.
White, Black, and Asian/Other exclude Hispanic ethnicity.

* Death rate unreliable, relative standard error is greater than or equal to 23 percent.
\+ Standard error indeterminate, death rate based on no (zero) deaths.
\- Confidence limit is not calculated for no (zero) deaths.

Source: State of California, Department of Finance, 2000 Population Projections with Age, Sex and Race/Ethnic Detail, December, 1998.
State of California, Department of Health Services, Death Records.

TABLE 2
DEATHS DUE TO CEREBROVASCULAR DISEASE
CALIFORNIA COUNTIES, 1999-2000
(By Place of Residence)

COUNTY	1999-2000 DEATHS (AVERAGE)	PERCENT	1999 POPULATION	CRUDE RATE	AGE-ADJUSTED RATE	95% CONFIDENCE LIMITS	
						LOWER	UPPER
CALIFORNIA	**18,084.5**	**100.0**	**34,072,478**	**53.1**	**63.3**	**62.3**	**64.2**
ALAMEDA	859.0	4.7	1,448,643	59.3	70.7	65.9	75.4
ALPINE	0.5	a	1,226	40.8 *	49.8 *	0.0	187.9
AMADOR	29.0	0.2	34,410	84.3	56.2	35.5	76.8
BUTTE	190.5	1.1	204,216	93.3	63.1	54.0	72.1
CALAVERAS	26.5	0.1	40,597	65.3	47.3	29.0	65.6
COLUSA	8.0	a	20,091	39.8 *	39.4 *	12.0	66.8
CONTRA COSTA	634.0	3.5	921,662	68.8	76.4	70.4	82.3
DEL NORTE	15.5	0.1	30,358	51.1 *	44.3 *	22.2	66.4
EL DORADO	72.5	0.4	156,996	46.2	49.5	38.0	61.0
FRESNO	418.5	2.3	800,121	52.3	64.2	58.0	70.3
GLENN	22.5	0.1	28,438	79.1	72.3	42.4	102.3
HUMBOLDT	91.5	0.5	127,658	71.7	71.7	57.0	86.4
IMPERIAL	55.0	0.3	150,381	36.6	48.6	35.8	61.5
INYO	13.0	0.1	18,348	70.9 *	43.3 *	19.7	66.9
KERN	326.0	1.8	662,472	49.2	60.3	53.8	66.9
KINGS	50.5	0.3	123,683	40.8	65.6	47.5	83.8
LAKE	68.0	0.4	58,335	116.6	67.2	51.0	83.4
LASSEN	11.0	0.1	35,208	31.2 *	36.2 *	14.8	57.6
LOS ANGELES	4,422.5	24.5	9,727,841	45.5	59.7	58.0	61.5
MADERA	51.5	0.3	121,779	42.3	45.9	33.4	58.5
MARIN	185.0	1.0	247,073	74.9	75.0	64.2	85.8
MARIPOSA	11.5	0.1	16,339	70.4 *	44.9 *	18.8	71.0
MENDOCINO	59.5	0.3	88,978	66.9	62.1	46.3	77.9
MERCED	100.0	0.6	210,707	47.5	66.4	53.3	79.5
MODOC	10.0	0.1	10,384	96.3 *	66.5 *	25.2	107.7
MONO	2.5	a	10,730	23.3 *	34.8 *	0.0	78.8
MONTEREY	187.0	1.0	395,133	47.3	61.3	52.5	70.1
NAPA	135.0	0.7	125,123	107.9	79.0	65.6	92.4
NEVADA	86.5	0.5	94,014	92.0	62.8	49.5	76.2
ORANGE	1,338.5	7.4	2,787,593	48.0	67.7	64.1	71.4
PLACER	151.0	0.8	233,836	64.6	68.6	57.6	79.6
PLUMAS	9.0	a	20,714	43.4 *	30.9 *	10.6	51.3
RIVERSIDE	854.0	4.7	1,519,469	56.2	54.6	50.9	58.3
SACRAMENTO	731.5	4.0	1,189,056	61.5	73.7	68.3	79.0
SAN BENITO	22.5	0.1	50,087	44.9	53.5	31.4	75.6
SAN BERNARDINO	709.5	3.9	1,688,984	42.0	62.8	58.2	67.5
SAN DIEGO	1,542.5	8.5	2,884,572	53.5	62.3	59.2	65.4
SAN FRANCISCO	595.0	3.3	788,975	75.4	60.4	55.5	65.2
SAN JOAQUIN	384.0	2.1	566,793	67.7	73.7	66.3	81.1
SAN LUIS OBISPO	170.0	0.9	247,880	68.6	57.3	48.6	65.9
SAN MATEO	483.0	2.7	735,381	65.7	66.4	60.5	72.4
SANTA BARBARA	264.0	1.5	408,292	64.7	63.6	55.9	71.3
SANTA CLARA	739.5	4.1	1,732,034	42.7	62.5	57.9	67.0
SANTA CRUZ	119.0	0.7	255,825	46.5	49.7	40.7	58.7
SHASTA	99.5	0.6	171,211	58.1	52.2	41.9	62.5
SIERRA	2.5	a	3,427	73.0 *	40.0 *	0.0	89.9
SISKIYOU	34.0	0.2	44,847	75.8	57.0	37.8	76.2
SOLANO	219.0	1.2	392,201	55.8	85.2	73.7	96.6
SONOMA	348.0	1.9	450,187	77.3	70.4	63.0	77.8
STANISLAUS	252.0	1.4	446,056	56.5	66.6	58.4	74.8
SUTTER	66.5	0.4	79,992	83.1	80.7	61.3	100.1
TEHAMA	41.5	0.2	55,806	74.4	56.8	39.3	74.2
TRINITY	8.0	a	13,353	59.9 *	51.2 *	15.2	87.2
TULARE	192.5	1.1	371,640	51.8	61.8	53.1	70.6
TUOLUMNE	36.5	0.2	54,631	66.8	47.3	31.9	62.8
VENTURA	383.5	2.1	744,825	51.5	65.3	58.8	71.9
YOLO	96.0	0.5	160,805	59.7	75.1	60.0	90.1
YUBA	49.5	0.3	63,062	78.5	98.1	70.7	125.5

Note: ICD-10 codes I60-I69; rates are per 100,000 population.

* Death rate unreliable (relative standard error is greater than or equal to 23 percent).

a Represents a percentage of more than zero but less than 0.05.

Source: State of California, Department of Finance, Race/Ethnic Population Estimates by County with Age and Sex Detail, 1970-2040, December, 1998.
State of California, Department of Health Services, Death Records.